Learning Orientations, Tactics, Group Desirability, and Success in Online Learning

Diane D. Chapman, Ed.D.
Teaching Assistant Professor
North Carolina State University

Since the inception of Web-based learning, there have been disagreements about what types of students are most likely to succeed in the online environment. Group work, an essential aspect of most graduate study, has limitations in Web-based environments. Learning styles and personality types are factors to consider in the design of online instruction and in attempts to promote online collaboration because these factors have been found to differ in online students as compared to those enrolled in traditional instruction (Jones & Martinez, 2001). Learning orientations are considered more useful than learning styles when working with online students because unlike learning styles, learning orientations consider the impact of emotions, intentions, will to success, and social factors on learning (Jones & Martinez, 2001). Understanding the relationships between student learning tactics and orientations can provide information to better plan, structure, and teach Web-based courses. In addition, examining these characteristics along with such variables as end-of-course grade and group member attractiveness, can lead to further understandings of the impacts of our design actions upon student success.

The findings from this exploratory research will suggest strategies for designing and managing Web-based instructions. This research attempts to look at the connections between learning orientations, preferred learning tactics, group member attractiveness and success in online learning (represented by project and course grades.)

Learning Orientation Questionnaire

Learning orientations, measured by the Learning Orientations Questionnaire (LOQ), represent a respondent's general approaches to learning when presented with novel situations or activities. Learning orientations are considered more useful than learning styles when working with online students because unlike learning styles, learning orientations consider the impact of emotions, intentions, will to success, and social factors on learning (Jones & Martinez, 2001).

The LOQ consists of 25, 7-point, 25 Likert scale questions ranging from 1 "uncharacteristic of me" to 7 "very characteristic of me." Three factors describe the respondent's will, commitment, intent, drive, or passion for improving, transforming, setting and achieving goals, and meeting challenges; the respondent's desire and ability to take responsibility, make choices, and control, self-assess, self-motivate, and manage, or improve their own learning; the degree to which respondents strategically commit deliberate, and persist to accomplish learning. Scores on these factors place respondents in one of four learning orientations, resistant, conforming, performing, and transforming (Martinez, 2005).

Learning Tactics Inventory

Learning tactics are defined as the ways in which people learn. While learners may have a preference for one tactic over another, the most proficient learners use all tactics (Dalton, 1999). The LTI consists of 32, 5-point, Likert scale questions with 1 being "I have almost never used this approach" to 5 being "I have almost always used this approach." LTI scores result in four scales. The action scale reveals how much a respondent is inclined to learn by direct experience. The thinking scale reveals how much a respondent is inclined to learn by reflection and relying on internal resources. The feeling scale tells how much the respondent recognizes his or her anxieties and can employ tactics to manage them. The accessing others scale reveals how much the respondent prefers to seek advice and support from others in similar situations (Dalton, 1999). The LTI associates higher LTI scores with better learners.

Group Member Attractiveness and Online Learning Success

Students were asked "The next time you must collaborate with people online, please list the members of the class you would volunteer to work with again?" In this study this is referred to as the attraction variable. Two variables resulted from this question. The first variable is the number of times a person was mentioned and the second is calculated by awarding points for higher rankings and is called the attractiveness score. Students mentioned more often and ranked higher on have a higher attraction score.

In this study, student success is measured in two ways. The first variable is the point total on the group project. The second variable is the student's final course grade. Grades were converted to numerical variables based on a 4.0 scale.

Participants

The sample consisted of 13 students from a master's level introductory research course. The course was entirely Internet-based, relying on primarily asynchronous communications, but students were also required to participate in several synchronous meetings using Centra Symposium. Assignments included both individual and group activities. Table 1 displays the descriptive statistics.

Table 1. *Descriptive Statistics*

Descriptor		No. (%)
Gender	Male	3 (23%)
	Female	10 (77%)
Degree Pursuit	Education	12 (92%)
	Other	1 (8%)
Final Grade average		3.59
Average miles from campus		33
Attraction Score Mean		21.76

Learning Orientations Questionnaire and Learning Tactics Inventory

The Learning Orientation Questionnaire (LOQ) was administered to all 13 students. None of the students were resistant or conforming learners. The percentage of students in each of the four learner categories is displayed in Table 2.

Table 2. *Types of Learning Orientation*

Resistant	Conforming	Performing	Transforming
0	0	6 (46%)	7 (54%)

Thirteen responded to the Learning Tactics Inventory (LTI). The action scale scores ranged from 29 to 36 with a mean of 29.07. The thinking scale scores ranged from 26 to 39, with a mean of 32.46. The feeling scale scores ranged from 13 to 34, with a mean of 23.38. The accessing others scale scores ranged from 15 to 33, with a mean of 27.

Is There a Relationship Between Learning Orientation and Preferred Learning Tactics?

Pearson's correlation analysis was conducted to look at relationships between scores on both instruments. Table 3 displays these results. The students; learning orientation was significantly related to the feeling

scale on the LTI. In addition, the LOQ autonomy scale was also positively correlated with the feeling scale on the LTI. This means that the more independent a learner is, the more likely he or she is to rely on feeling as a learning tactic and that students who have a performing learning orientation are more likely to rely on feeling as a learning tactic.

Table 3. *Correlations between LTI and LOQ Scales*

LOQ Scale	Action	Thinking	Feeling	Accessing
Orientation	-.017	.292	.588*	.118
Motivation	.410	.148	.025	.265
Commitment	.278	.091	.278	.485
Autonomy	.249	.531	.740*	.176

* Significant at .05 level.

Is There a Relationship Between Learning Orientation and Student Success?

Pearson's correlation analysis was performed on the LOQ orientation and its three scales and the group project and final course grades. A significant positive relationship was found between a student's LOQ motivation score. This means that the higher a student's motivation score on the LOQ, the higher his or her final course grade. The results of the t-tests are displayed in table 4.

Is There a Relationship Between Learning Orientation and Group Member Attractiveness?

Pearson's correlations were performed on the LOQ orientation and scale items with the group attractiveness variables. No significant relationships were found with either the number of times a student was mentioned or the group attractiveness score. Results of this analysis are displayed in Table 4.

Table 4. *Correlations for LOQ Scales, Project Grade, Final Class Grade & Group Member Attractiveness*

LOQ Scale	Project Grade	Final Class Grade	# Times student was mentioned	Group Member Attractiveness Score
Orientation	.381	-.386	-.497	-.375
Motivation	-.121	.638*	.414	.480
Commitment	-.099	.114	-.108	-.172
Autonomy	-.119	.2	.268	.088

* Significant at .05 level.

Is There a Relationship Between Preferred Learning Tactics and Student Success?

Pearson's correlations were performed on the LTI scale scores with the grades on both the group project and the final course grade. No significant relationships were found. Results of this analysis are displayed in Table 5.

Is There a Relationship Between Preferred Learning Tactics and Group Member Attractiveness?

Pearson's correlations were performed on the LTI scale scores with the both group member attractiveness variables. A moderate correlation was found between a learner's group attractiveness score and his or her score on the LTI accessing others scale. This means that people who score higher on the LTI accessing

others scale are more likely to be attractive to other group members. Results of this analysis are displayed in Table 5.

Table 5. *Correlations for LTI Scores and Final Course Grade*

LTI Scale	Project Grade	Final Course Grade	# Times student was mentioned	Group Member Attractiveness Score
Action	.280	.231	-.058	.095
Thinking	.252	-.091	-.083	.029
Feeling	.425	-.104	-.284	-.117
Accessing Others	.088	.081	.513	.562*

* Significant at .05 level.

Is There a Relationship Between Student Success and Group Member Attractiveness?

Pearson's correlations were performed on the both group member attractiveness variables with the grades on both the group project and the final course grade. No significant correlations were found in this analysis. Results of this analysis are displayed in Table 6.

Table 6. *Correlations for Final Course Grade and Group Member Attractiveness*

	# Times student was mentioned	Group Member Attractiveness Score
Group Project Grade	-.497	-.346
Final Course Grade	.436	.431

Discussion

This study explored the relationships between learning orientations, tactics, group attractiveness, and student success. All of the students in this study were either performing or transforming learners. This is consistent with Jones and Martinez (2001) who found that 93% of students in Web-based courses were performing or transforming learners as compared to 68% in traditional courses. This study did not find significant differences in student success between these two types of learners in the online environment.

This study also showed a relationship between a student's learning orientation and the feeling scale on the LTI. This may indicate that performing learners tend to be able to recognize anxieties from learning and employ tactics to control them better than transforming learners. This may be one reason for the lack of difference in the two groups in terms of their online learning success.

Also related to the LTI feeling scale was the motivation score on the Learning Orientation Questionnaire. These results suggest that, as one would imagine, students who have the desire to take responsibility for their learning are more likely to be able to manage their learning anxieties. Surprisingly, the only variable that significantly correlated to student success was this LOQ motivation score. This is one area for further study as it may be possible to predict student success in online learning using the LTI feeling score combined with the LOQ motivation score.

When looking at how students rated each other in terms of their desire to work together in groups again, several findings are of interest. As expected, the more a student prefers to seek advice and support from others (LTI accessing others variable) for learning, the more other people want to work with them again.

Future studies should look at the formation of groups using the LTI accessing others variable. Groups may work better with at least one person who scores high on this scale. This is supported by research that shows that high feeling people are more likely to engage in the leadership practices of challenging, inspiring, modeling, and encouraging as compared to people scoring low of the LTI feeling scale (Brown & Posner, 2001). But, it was also interesting to note that although someone was desirable as a group member, that characteristic did not correlate to student success.

This study was an exploratory look into the relationships between learning orientations, learning tactics, learning success and group work. These results are part of a larger study conducted with Julia Storberg-Walker, Assistant Professor at North Carolina State University. Additional data collection and analysis is underway to broaden the scope of the study by using additional courses and instructors. Although the results of this study are limited in terms of sample size and generalization, it does give some insight into the variables for student success in Web-based learning environments and suggests the possibility of using the LOQ and LTI for both predicting student success and group formation in online learning.

References

Brown, L. M., & Posner, B. (2001). Exploring the relationship between learning and leadership. *Leadership and Organization Development Journal*, *22*(6), 274-280.

Dalton, M. (1999). *Learning tactics inventory: Participant workbook*. San Francisco: Jossey-Bass.

Jones, E. R., & Martinez, M. (2001) *Learning orientations in university Web-based courses*. Publication in the Proceedings of WebNet 2001, Oct 23-27, Orlando, FL.

Martinez, M. (2005) *Learning orientation questionnaire: Interpretation manual*. The Training Place. Retrieved March 5, 2006, from http://www.trainingplace.com/source/research/LOQPKG-Manual2005.pdf

Biographical Sketch

Dr. Diane Chapman is a Teaching Assistant Professor in the Training and Development and the coordinator of the Online M.Ed. Program at NC State. She was formerly the coordinator for online instruction at the UNC-Chapel Hill School of Public Health. She has a background in business and industry with over 20 years experience in training and development. Her current research interests include evaluation/ assessment of training and online learning, and the roles of affect in online education.

Address: NC State University
          Department of Adult and Higher Education
          Campus Box 7801
          Raleigh, NC 27695-7801
E-mail: diane_chapman@ncsu.edu
Phone: 919.513.4872
Fax: 919.515.4039